Contaminant Screening Study Libby Asbestos Site, Operable Unit 4 Libby, Montana

Final Sampling and Analysis Plan (SAP) Addendum For the Cemetery Park Ball Fields

July 2002



Sampling and Analysis Plan Addendum

## Response Action Contract for Remedial, Enforcement Oversight, and Non-Time Critical Removal Activities at Sites of Release or Threatened Release of Hazardous Substances in EPA Region VIII

U.S. EPA Contract No. 68-W5-0022

Final Sampling and Analysis Plan (SAP)
Addendum for the Cemetery Park Ball Fields,
Contaminant Screening Study,
Libby Asbestos Site, Operable Unit 4

July 31, 2002

Work Assignment No.: 116-RIRI-08BC
Document Control No.: 3282-116-PP-SAMP-15253

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	WOLK Assignment No., 110-MIM-OODC	
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# Site Specific Plan for Conducting the Contaminant Screening Study at the Cemetery Park Ball Fields

This addendum outlines the site-specific requirements to conduct the contaminant screening study (CSS) at the Cemetery Park Ball Fields. All rationale, data quality objectives, quality assurance procedures, and standard operating procedures (SOP) from the CSS sampling and analysis plan (SAP) still apply (CDM 2002).

## 1.1 Site Location/Site History

Four baseball fields currently exist within Cemetery Park located adjacent to the Montana National Guard Armory off Crotteau Road (Figure 1). The City of Libby owns the property, but currently leases it to Mr. Cameron Foote.

According to Mr. Foote, prior to the construction of the baseball fields, the area was undeveloped and mostly under water (i.e., swamp). In 1995, the city began to backfill this area with a variety of materials (e.g., riprap and common fill) in order to use this area for future development. Mr. Foote suspects that the fill material may have originated from the mine (i.e., Vermiculite Mountain) and contain Libby amphibole (LA) asbestos. It is estimated that approximately two to three feet of riprap and three to five feet of common fill was used as backfill throughout the entire area. Overlying this material is approximately 6 to 8 inches of topsoil that originated from the Libby Baptist Church yard. Gravel was used to finish two parking lots and a pedestrian walkway that extends between the four ball fields (Figure 2). The origin of the gravel is currently unknown.

EPA requested that CDM collect surface soil samples at the ball fields in May based on concerns of children being potentially being exposed to asbestos during the upcoming baseball season. On May 6 2002, CDM collected a total of twelve surface soil samples (0-4 inches) from the four ball fields (Figure 2). Each ball field had three samples, each consisting of five composites (Attachment 1 – Field Sample Data Sheets and Logbook pages). The results from the polarized light microscopy (PLM) analysis indicated no detectable asbestos in any of the twelve surface samples (Attachment 2 – EMSL results).

## 1.2 Objectives

The objective of this addendum is to present a site-specific sampling plan to conduct the CSS at the Cemetery Park Ball Fields.

## 1.3 Field Screening and Sampling Activities

CSS activities at the Cemetery Park Ball Fields will consist of a verbal interview, visual inspection, and soil sampling.



### 1.3.1 Verbal Interview

A verbal interview to discuss concerns and obtain historical information about the ball fields was held on January 14, 2002 with the current lessee, Cameron Foote. Thomas Cook and Brad Cook were present at this meeting for CDM.

## 1.3.2 Visual Inspection

The field team will conduct an inspection for visible vermiculite of all of the sub-areas (i.e., ball fields, walkways, parking lots, and wooded areas). Soil samples will not be collected from any areas where visible vermiculite product is observed. Instead, the team will record specific details in the field logbook and on the property sketch portion of the information field form including location of contaminated source; approximate volume by estimating and noting source location length, width, and depth observed during sampling (depth will only be the depth observed during sampling and no additional effort will be conducted to determine the depth below ground surface to which the source extends); estimated percentage of product; and anecdotal estimates of how long the contaminated source material has existed on the property.

## 1.3.3 Soil Sampling

The soil sampling process will involve the following steps:

- Sketch sampling location
- Determine composite sample locations
- Collect samples
- Record sample locations using global positioning system (GPS) equipment

#### Sketch Property

A site layout sketch of each sub-area will be drawn prior to sampling. This sketch will include major features (e.g., trees, drainage ditches, utility poles, etc.) and sampling locations. The site layout sketch will be completed on the IFF.

#### **Determine Sampling Locations**

The major features of Cemetery Park include four ball fields, two parking lots, a gravel walkway, and a wooded area adjacent to the ball fields. For sampling purposes, each feature has been divided into separate sampling locations (Figure 2).

Surface soil samples will extend from the surface to approximately 4 inches below ground surface. Subsurface soil samples will advance from the topsoil/fill interface (approximately 8 in.) to 1.5 feet below ground surface. All samples (surface and subsurface) will consist of a 5-point (pt) composite sample. The 5-pt composite sample will consist of a center subsample and four additional subsamples within the designated area. The four subsequent subsamples will be collected within the given area that will provide the best representation (i.e., linear and/or equidistant from



each other). While surface and subsurface soil samples will be co-located, they will be individually collected (i.e., individual surface and subsurface composite samples).

Each of the two parking lots is divided into two sections (Figure 2). One 5-pt surface and one 5-pt subsurface sample will be collected from each section of the two parking lots. One 5-pt subsurface sample will be collected from each ball field. No further surface samples will be collected at any of the ball fields. The gravel walkway is divided into two sections. One linear 5-pt composite surface sample will be collected from each section. The wooded area below ball field #2 is divided into two sections. One 5-pt composite surface sample and one 5-pt composite subsurface sample will be collected from each section. Therefore, a total of 8 surface composite and 10 subsurface composite samples will be collected as part of this characterization (Table 1).

Table 1: Cemetery Park Ball Field Sample Count

	Surface Samples	Subsurface Samples
Parking Lots	4	4
Ball Fields	0	. 4
Gravel Walkway	2	0
Wooded Area	2	2
Total	8	10

#### Collect Samples

All soil samples will be collected in accordance with SOP CDM-LIBBY-05, Site-Specific Standard Operating Procedure for Soil Sample Collection. The PPE required for the fieldwork is detailed in the HASP (Appendix B).

#### Record GPS Locations

For each sample collected, a GPS point will be recorded. All necessary information will be entered into the GPS data dictionary.

Location identification numbers will be assigned for each sample location. Location identification numbers will include sample point location identification numbers (SP) numbers, as discussed below. GPS points will be collected for each soil sample location, and the location identification number associated with the sample point will be in the form of SP-######.

## 1.4 Sample Analysis and Data Validation

Soil samples will be analyzed for LA by the IR method (ISSI-LIBBY-02). Depending on sample results, a sample split may be submitted for analysis using the SEM method (Asbestos Analysis of Soil by Scanning Microscopy and Energy Dispersive X-Ray Spectroscopy, Revision 0, May 6, 2002). The process describing when and how many SEM splits are submitted for analysis is described in Section 7.



## References

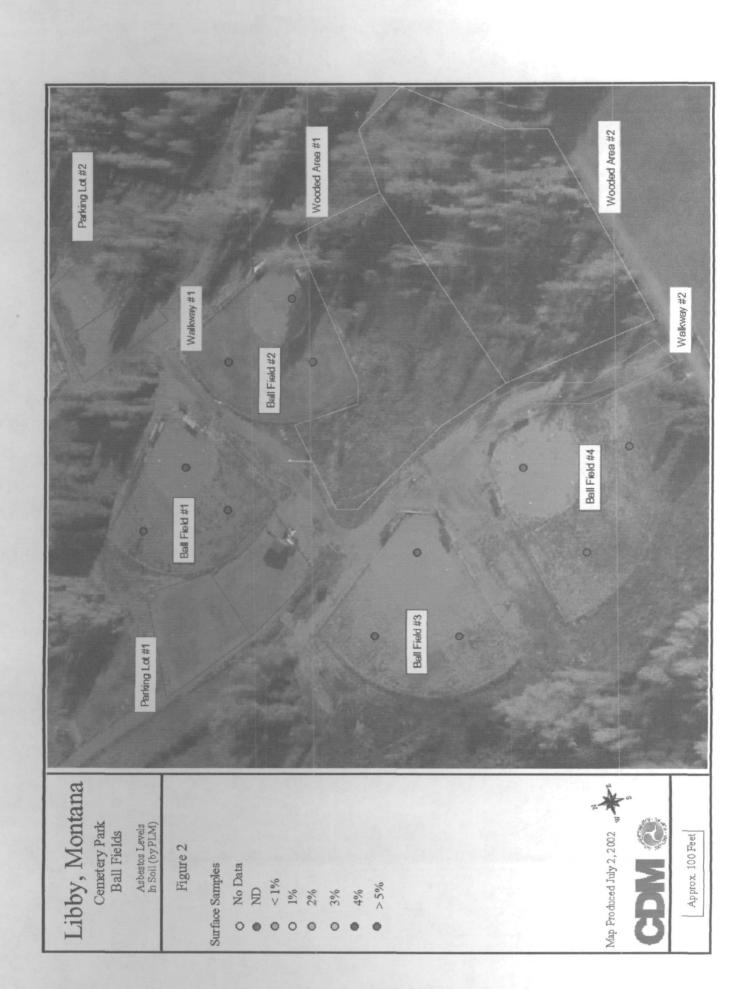
CDM. 2002. Final Sampling and Analysis Plan, Remedial Investigation, Contaminant Screening Study. April.

## Color Map(s)

The following pages contain color that does not appear in the scanned images.

To view the actual images, please contact the Superfund Records Center at (303) 312-6473.

Balfield#2 Vermiculite Mtn Screening Plant KDC Bluffs Property Ballfield#4 Balffield#1 Ballfield #3 **Export Plant** Middle School High School Cemetery Park Ballfield Libby, Montana 0.5 Miles Map Projection UTM Zone 11 NADB3 FT \*\* Inset not to scale. Map Produced July 2, 2002 Figure 1 0 0.5



## Attachment 1

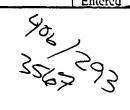
Field Sample Data Sheets and Logbook pages from the May 6, 2002 Surface Soil Sampling Event at the Libby Cemetery Park Ball fields

Sheet No.: 5- 001107

## LIBBY MONTANA FIELD SAMPLE DATA SHEET SOIL-LIKE MATERIALS

Scenario No.: Mase 1	Field Logbook N	100056	Page 1	No: 71-55	Sampling Da	ite: 5/6/02
Address: Libby Ca	mounity Ball	Fields 1-4	Owner/ i e	mant: Cit	4	
Land Use: (circle) Reside	ential School (	Commercial	Mining	Readway	Other (	)
Sampling Team: (circle)	CDM) PES	Other	Names:	Pyles/W	zuer	-

Data Item	Sample 1	Sample 2	Sample 3
Index ID	1-06599	1-06600	1-06601
Location ID			
Sample Group	Property	Property	Property
Location Description (circle)	Yard Soil Garden Soil Play Area Driveway Other Field 1 infield	Yard Soil Garden Soil Play Area Driveway Other Right Eights Center	Yard Soil Garden Soil Pluy Area Driveway Ollier Leci- Field to center
Category (circle)	FD	© FD	FS FD
Matrix Type (circle)	Mining Waste Subsurface Soil Surface Soil Fill Other	Mining Wastc Subsurface Soil Surface Soil Fill Other	Mining Waste Subsurface Soil Surface Soil Fill Other
Type (circle)	Grab Comp # subsamples5	Grab Comp # subsamples _ 5	Grab Comp. # subsamples
Sample Time	1000	1015	1030
Top Depth (in.)	0	0	Ò
Bottom Depth (in.)	4	Ч	4
Map Location	Inc. eld & F.d. +	Right to Conter Field	Left to centur Field
Field Comments	No product Visible	Right to Conter Field No product U: 5:61e	No Product Visible
	Entered Validated	Entered Validated	Entered Validated



Sheet No 5- 001108

## LIBBY MONTANA FIELD SAMPLE DATA SHEET SOIL-LIKE MATERIALS

		700026 Page No. 72	,
		do l-4 Owner/Tenant:(	,
		Control Control	
Sampling Team: (c	ircle) CDMD (PES) Oth	er Names: Pyles/	Henderson
-			
Data Item	Sample 1	Sample 2	Sample 3
Index ID	1-06602	1-06603	1-06604
Location ID	-	:	
Sample Group	Property	Property	Property
Location Description (circle)	Yard Soil Garden Soil Play Area Driveway Other Rockt Field	Yard Soil Garden Soil Play Area Driveway Other Left Field	Yard Soil Garden Soil Play Area Driveway Other TAField
Category (circle)	ES FD	(FS)	(S)
Matrix Type (circle)	Mining Waste Subsurface Soil Surface Soil Fill Other	Mining Waste Subsurface Soil Surface Soil Fill Other	Mining Waste Subsurface Soil Surface Soil Fill Other
Type (circle)	Grab Comp # subsamples5	Grab Comp # subsamples 5	Grab Comp.# subsamples _ 5
Sample Time	1045	1100	1115
Top Depth (in.)	0	0	0
Bottom Depth (in.)	4	4	4
Map Location	Rightfield to Center	Left Field to center	Infield
Field Comments	No Visible Product		
	Product		
	Entered Validated	Entered Validated	Entered Validated

## Sheet No: S- CO: 103 LIBBY MONTANA FIELD SAMPLE DATA SHEET SOIL-LIKE MATERIALS

	Se 1 Field Logbook No: 1		• •
	sy Community Ball Field	$\sim$	
Land Use (circle)		· ·	
Sampling Team (ci	ircle) CDM PES Other	Names: Ales/	Henderson
Data Item	Sample 1	Sample 2	Sample 3
Index ID	1-06605	1-06606	1-06607
Location ID		: -	
Sample Group	Atoparay	Property	Property
Location Description (circle)	Yard Soil Garden Soil Play Area Driveway Other Right Field	Yard Soil Garden Soil Play Area Driveway Other Left Field	Yard Soil Garden Soil Play Area Driveway Other Infield
Category (circle)	E P	H H	(FS) HD
Matrix Type (circle)	Mining Waste Subsurface Soil Surface Soil Fill Other	Mining Wuste Subsurface Soil Surface Soil Pill Other	Mining Waste Subsurface Soil Surface Soil Fill Other
Typc (circle)	Grab Comp # subsamples	Grab Comp# subsamples	Grab  Omp # subsamples 5
Sample Time	1125	1135	1145
Top Depth (in.)	0		0
Bottom Dcpth (in.)	4	Ч	4
Map Location	Right Field to Center	Left Field to Center	Infield
Field Comments	No visible		,
	Product		
			1
	Entered Validated	Entered Validated	Entered Validated

## Sheet No. S- - COLLIBBY MONTANA FIELD SAMPLE DATA SHEET SOIL-LIKE MATERIALS

Scenario No.: Phos	Field Logbook No: _	10056 Page No: 25	Sampling Date: 5/6/02
Address. C. L.	Community Rall Fields 1	-4 Owner/ ( enant: Ci-	ŧσ
	Residential School Comm	<del></del>	/
Sampling Team: (cir	rcle) CDM PES Other	Names: Pyles/He	enderson
<u></u>			
Data Item	Sample 1	Sample 2	Sample 3
Index ID	1-06608	1-06609	1-06610
Location ID			
Sample Group	Property	Property	Property
Location Description (circle)	Yard Soil Garden Soil Play Area Driveway Other Right Field	Yard Soil Garden Soil Play Area Driveway Offic Left Field	Yard Soil Garden Soil Play Area Driveway Ortes Infield
Category (circle)	(B)P	FD HD	(F) FD
Matrix Type (circle)	Mining Waste Subsurface Soil Surface Soil Fill Other	Mining Waste Subsurface Soil Surface Soil Fill Other	Mining Waste Substitute Soil Surface Soil Fill Other
Type (circle)	Gmb  Comp ≠ subsamples	Grab Conny # subsamples 3	Grab Comp. # subsamples
Sample Time	1120 1122 1120	1112 1210	BS/61/25 1220
Top Depth (in.)	0	0	0
Bottom Depth (in.)	4	4	4
Map Location	Rightfield to Center	Left Field to Center	Infield
Field Comments	No Visible		
•	Product		

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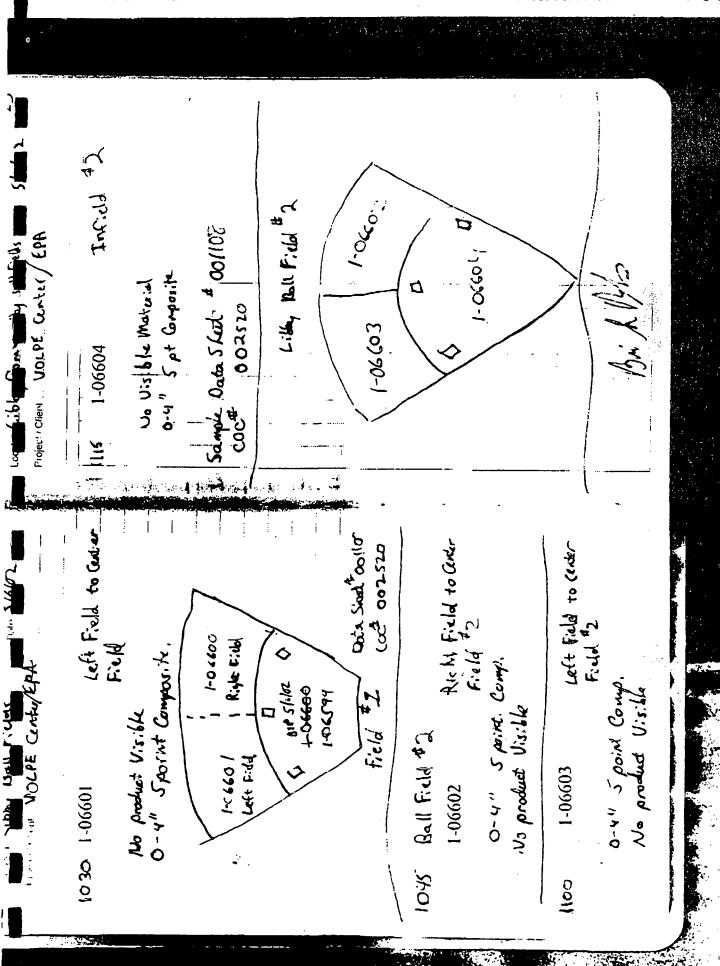
women Liddy Community Ball Fields East 5/6/02 JOLPE Center / EPA ora meeting @ com office. - Weather Sunny 50°F - PAE Level D - B. Pyles + D. Warren sampling - Sampling Libby Ball Fields 1-4 will be taking spoint composite in insteld of each ball field + Lividing outfield of each ball field in Middle @ Center field and each section will have 5 point composite taken. Sampling Will go as follows! 1000 Sampling begins on Field I sample of ball field 1-06599 Insield. No product visible 0-4" Sp+ Composite 1-06600 Sample of Right Field

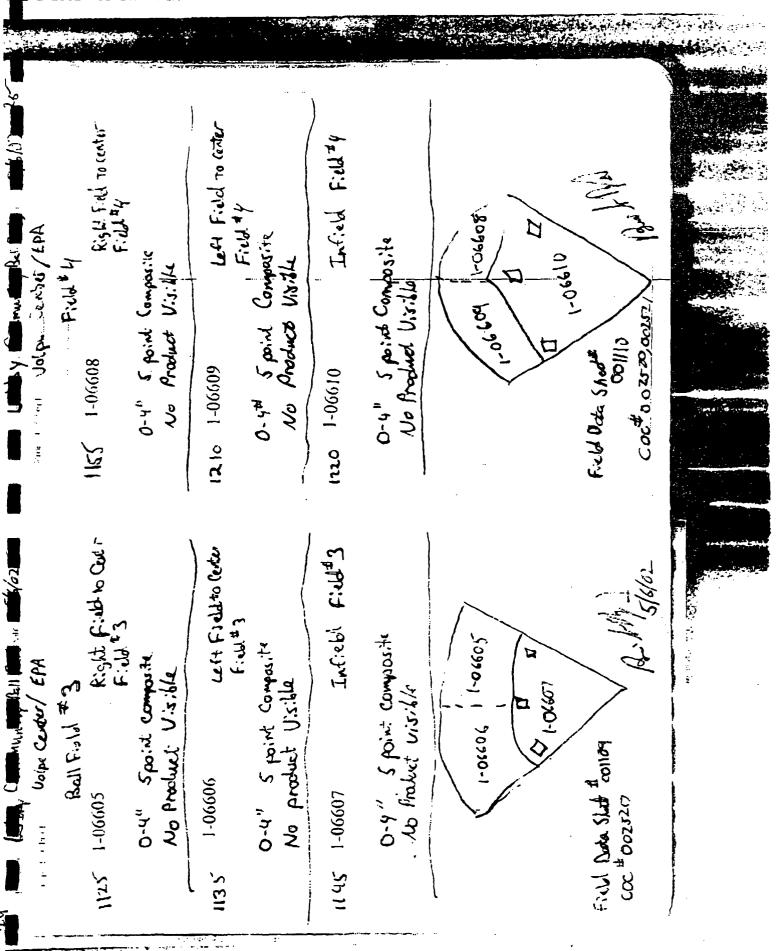
to Center field.

No product visible 0-4" 5 pt. composite

BELA

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## Attachment 2

Analytical Results from the May 6, 2002 Surface Soil Sampling Event at the Libby Cemetery Park Ball Fields

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TO: 13032951895 CHICL MUDILE LAD

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Customer PO:

270200045

DRES51

EMSL Project ID: LIDDY, MORTANS EYA Project

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Analysis Date:

5/7/2002

Libby ballfield samples

## Polarized Light Microscopy (PLM) Performed by NIOSH Method 9002, Issue 2

		Non-Aubentos					<b>Papeaton</b>		
Sample	Location	Appearance	Treatment	% FI	brous	%	Non	-Fibrous	% Type
1-20552 Tan 270200045-0001 (1-06549) Non-Fibrous	Non-Fibrous	್ರಹಕ comment	-		1	ŨŪἀ	Non-librous (other)	None Detected	
		Heidiúðavauns	CUM LAB: EXEST.27						
1-03000/ 270200045-0002	(1-06600)	Tan Non-Fibrous	See comment	10%	Callulosa		<del>9</del> 0%	Non-librous (other)	None Detected
		Heterogeneous	CDM LAB; EMSL27 gried in oven						
7-00001 270200048-0003	(1-06601)	Cray Non-Fibrous	*Sec comment	10%	Callulase		ōūśż	Non-fibrous (other)	None Detected
,	Hederogeneous	CDM LAR: EMSL27 dried in over:							
7-08802 279200045-0004	(1-06602)	Gray Non-Fibrous	*Sec comment	7%	Cellulcos		93%	Non-fibrage (other)	None Detected
		Heterogeneous	COM LAS: EMSL27 dried in oven						
7-08003- 279300045-0005	(1-06603)	Oray Non-Fibrous	"Gae comment	5%	Cellulese		95%	Non-fibrous (other)	None Detected
	•	Helemageneous	COM LAS: EMBLZ?		•				
1-00004 270200048-0000	(1-06604)	Gray Non-Fibrous	"3## comment			1	65%	Non-fibrous (other)	None Detected
		Haterogeneous.	CDM LAB; EMSL27						
1- <b>06605</b> 2701000-5-0007	(1-04605)	Gray Non-Fibrous	See comment	<b>!%</b>	Callulasa		33%	Nen-fibrous (other)	Hone Detected
		Hateraganacus	CDM LAB: EMBL27 tried in Duen						

Analyst(s)

Anna Marie Gooden (10)

or other approved signatory

Discissmers, PLM has been known to mire expected in a small percentage of samples which comisin asbestoe. Thus negative PLM results cannot be guaranteed. EMSL suggests that samples recognized as <1% or none detected be sessed with other SEM or TEM. The above lest report relates only to the items laided. This report may not be reproduced, except in full, without written assert in EMSL. The space lest private the claim product enterement by NVLAP nor any agency of the United States Government, Laboratory to report plate for the accuracy of results when requested to physically separate and analyze layered earryles.



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7802 02/02

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Analysia Date: 5/7/2002

Polarized Light Microscopy (PLM) Performed by NIOSH Method 9002, Issue 2

Li	bby baufic	ed samples		Non-Asbestos				
Sample	Location	Appearance	Treatment %	Fibrous	% Non-Fibrous	% Туре		
1-55856 270200048-0000	(1-06)	Gray Non-Fibrous Haterageneous	*Sac comment com/u/s: EMSU27		100% Non-Shrous (other)	None Detected		
1-05507 270200048-0009	(1-06607)	Gray Non-Fibrous	dried in oven "See comment		100% Non-Abrous (other)	None Detected		
		Haterageneous	CDM:LAB: EMSL27 dried in oven					
1-06600 270200045-0010	(1-06608)	Gray Non-Fibrous	*See- comment		198% Non-fibrous (other)	None Detected		
	Hetarageneous		(:DW/LAB); EMSL27 dried in over					

Analyst(s)

Anne Maria Gooden (10)

or other approved signatory

Disclaimore: PLM has been known to miss estimated in a small percentage of someties which contain appealed. Thus negative PLM results cannot be guergiment. EMSL suggests that complex reported as <1% or hard detected be tested with either SEM or TEM. The above test report retains only to the items tested. This report retains approved by EMSL. The above test must not be used by the distribution of the containing approved by EMSL. The above test must not be used by the distribution product endorsement by NVLAP not any agency of the United States Government, Laborator is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

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Fax

Anni-Autio

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50 HAMPSHIRE ST.

CAMBRIDGE, MA 02142 (617) 452-9257

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DRESST

EMSL Project ID: Libby, Montana EPA Project

Analysis Date:

5/8/2002

## Polarized Light Microscopy (PLM) Performed by NIOSH Method 9002, Issue 2

				eotesdaA-npK						Asbestos
Sample	Location	Appearance	Treatment	%	Fib	rous	. %	Non	Fibrous	% Type
1-06609	7.2	Ten Non-Fibrous	"See comment		1%	Cellulose	;	99%	Non-fibrous (other)	None Detected
<u> </u>	(Libby ballfeld	Heterogeneous	COM LAS: EMBL27 Grad in OVOR							
1-05610 270200052-00G2	sanpus	Tan Non-Fibrous	*See communit				•	100%	Non-fibrous (other)	None Detected
		Herenogeneous	COM LAB: EMSL27 dried in oven							
1R-13758 270200052-0009		Tan Non-Fibrous	See comment				•	100%	Non-fibrous (other)	None Detected
		Heterogeneous	CDM LAB: EMGL27							
18-13780		Tan Non-Florous	*Sas comment				•	100%	Non-librous (other)	Name Delected
270200082-0004		Hereid Cevie on a	COM LAB: EMBLET							
1R-13761		Ten	"Ses-				1	120%	Non-fibrous (sther)	Nane Detected
270200052-0008		Non-Fibrous Hotorogeneous	CENTURE FINELEY  dried in oven							,
1R-13762		Tan	*Sea				1	100%	Nan-fibrous (other)	None Delected
270200052-0006		Non-Fibrous Hatarageneous	COM1 VE ERST 31							
1R-13763		Ten	"See				•	100%	Non-fibrous (other)	None Detected
<b>2702000</b> 52-0007		Non-Fibrous	comment							
		CVM LAB: EMSL27 gried in cust								

Anelyst(s)

Anne Mada Gooden (9)

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